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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,135	03/15/2004	Permachanahalli S. Ramkummar	42P17109	3427

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER	
HAN, QI	

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
01/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,135	RAMKUMMAR ET AL.	
	Examiner	Art Unit	
	Qi Han	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

2. This communication is responsive to the applicant's amendment dated 10/31/2007. The applicant(s) amended claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 20, 21, 23, 24, 27, 28, 30, 31, 34, 35, 37 and 38 have been amended (see the amendment: pages 2-15).

Response to Arguments

3. Applicant's arguments filed on 10/31/2007 with respect to the claim rejection under 35 USC 102 and/or 103, have been fully considered but are moot in view of the new ground(s) of rejection, since the amended claims introduce new issue and/or new subject matter, which change the scope of the claims. The response to the applicant's arguments based on the newly amended claims is directed to the corresponding new ground rejection (see below).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1-40, the newly amended limitation "computing (or compute) for another (or second) frame of the non active voice signal another excitation based on the altered scale factor and the random excitations, the another excitation representative of the noise condition of the signal" introduces new subject matter, which is not specifically disclosed in the original specification. It should be pointed out that that the content of the specification disclosure (i.e. paragraph 26) provided in the arguments (see Remarks: page 16, paragraphs 2-3) does not fully supportive of the amended limitation(s).

In addition, regarding claims 4,10, 16, 23, 30 and 37, they include newly amended limitation "rescaling the sum of the random adaptive excitation and one of the random excitations," which further introduces new subject matter because the limitation is not specifically disclosed in the original specification (see the closet specification disclosure: Figs 2-3, blocks 206 and 306 and paragraphs 28-29).

Claim Rejections - 35 USC § 103

5. Claims 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (see the specification: pages 1-10 and Figs. 1-2, which is also referred to or based on the IDS: "ITU-T Recommendation G.729" and "G.729 Annex B", 1996) hereinafter referenced as ADMISSION in view of THYSSEN (US 6,813,602).

As per **claim 13**, as best understood in view of the claim rejection under 35 USC 112 1st (see above), ADMISSION discloses "ITU-T G.729" and 'G.729 Annex B') for coding of speech using CS-ACELP and using silence compression scheme (specification: p5-p6), comprising:

"an encoder (Fig.1, 100) coupled to a communication channel (Fig. 1, 105) wherein the encoder is to compute for a first frame of a non active voice signal an excitation based on [a scale factor] and one of a plurality of random excitations the encoder further to compute for a second frame of the non active voice signal another excitation based on [the scale factor] and the random excitations, [where the scale factor has been altered since the computing of the first flame based on a noise condition of the signal,] the another excitation representative of the noise condition of the signal", (Figs. 1-2, blocks 102-108, 202-210; p28, 'current excitation is computed...and...rescaled', 'the process loops for every subframe (non active voice subframe)...until the subframe is an active voice frame...', when the process within the loop(s) (meaning non active voice signal), the another (following) excitation is necessarily representative noise condition);

"a voice activity detector coupled to the encoder to detect for a non active voice signal" (Fig. 1, 104);

"a decoder (Fig.1, 106) coupled to the communication channel, the decoder further comprising a comfort noise generator to generate comfort noise if the voice activity detector detects the non active voice signal" (p22-p23).

ADMISSION does not expressly disclose "to compute ...the excitation of frames (or subframes) based on **a scale factor**" that is altered "based on **a noise condition** of the signal". However, the feature is well known in the art as evidenced by THYSSEN who discloses

'methods and systems for searching a low complexity random coded book structure' (title), comprising re-usable 'random table' with 'codebook' (col. 3, lines 1-12); 'encoder...selects an excitation vector...and gain based on a variety of factors' including 'noise level (noise condition of the signal)', 'optimum (implying altering) gain value (scale factor)... from both the adaptive and fixed codebooks 257 and 261', 'joint optimization of both gain and adaptive and fixed codebooks', 'applies gain moralization, smoothing and quantization' (col. 7, lines 1-37), and Fig.2 showing 'control 275' controlling (altering) 'gc 263' (gain value, i.e. scale factor) based on 'noise level' in block 279; (also see, col. 23, lines 1-14, col.31, lines 40-52, col. 33, line 65 to col. 35, line 30, which further suggests altering scale factor for the excitation of signal as claimed). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the feature of rescaling the commutated excitation with the process loops for non active voice frames/subframes disclosed by ADMISSION, with the feature of controlling (or altering) the gain value (scale factor) based on noise level for the excitation of the signal as taught by THYSSEN, for the purpose (motivation) of improving the perceptual quality of speech and/or improving the background performance and noise level estimation (THYSSEN: col. 22, line 64 to col. 23, line 5).

As per **claim 14** (depending on claim 13), ADMISSION in view of THYSSEN further discloses "the comfort noise generator further configured to pad an current excitation with zeros if a gain of a non active voice signal is zero" (Fig. 2, 202).

As per **claim 15** (depending on claim 14), ADMISSION in view of THYSSEN further discloses "the comfort noise generator further configured to generate random adaptive codebook parameters and fixed codebook parameters" (Fig. 2, 203).

As per **claim 16** (depending on claim 15), as best understood in view of the claim rejection under 35 USC 112 1st (see above), ADMISSION in view of THYSSEN further discloses:

"generating a random adaptive excitation based on the random adaptive codebook parameters" (Fig. 2, 205);

" computing a sum of the random adaptive excitation and one of the random excitations" (Fig. 2, 206); and

"rescaling (the current excitation with) the sum of the random adaptive excitation and one of the random excitations" (Fig. 2, 206).

As per **claim 17** (depending on claim 16), ADMISSION in view of THYSSEN further discloses:

"computing a fixed codebook gain based on the fixed codebook parameters" (Fig. 2, 207); and

"updating the current excitation with an algebraic-code-excited linear-prediction excitation" (Fig. 2, 208); and

As per **claims 18-19** (depending on claim 13), ADMISSION in view of THYSSEN further discloses "the random excitations are based on a plurality of random noise samples" (claim 18) and "the random noise samples are Gaussian noise samples" (claim 19), (Fig. 2, 204 and p23).

As per **claims 1-6**, they recite a method. The rejection is based on the same reason described for apparatus claims 13-17 and 19 respectively, because claims recite the same or similar limitation(s) as claims 13-17 and 19 respectively.

As per **claims 7-12**, they recite storage medium. The rejection is based on the same reason described for apparatus claims 13-17 and 19 respectively, because claims recite the same or similar limitation(s) as claims 13-17 and 19 respectively.

As per **claims 20-26**, they recite storage medium. The rejection is based on the same reason described for apparatus claims 13-19 respectively, because claims recite the same or similar limitation(s) as claims 13-19 respectively.

As per **claims 27-33**, they recite a method. The rejection is based on the same reason described for apparatus claims 13-19 respectively, because claims recite the same or similar limitation(s) as claims 13-19 respectively.

As per **claims 27-33**, they recite an apparatus. The rejection is based on the same reason described for claims 13-19 respectively, because claims recite the same or similar limitation(s) as claims 13-19 respectively.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Please address mail to be delivered by the United States Postal Service (USPS) as follows:

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Effective January 14, 2005, except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and Review (see 37 CFR 5.1(c) and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, etc.) as follows:

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (571) 272-7604. The examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see http://pair-direct.uspto.gov.

QH/qh
January 8, 2008

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER